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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/597,529	06/20/2000	Joseph Peter Kerzman	RA 5273(CST 1028.1128101)	5974
7590 10/17/2003			EXAMINER	
Attn Charles A. Johnson Unisys Corporation MS 4773 P O Box 64942 St Paul, MN 55164			ROSSOSHEK, YELENA	
			ART UNIT	PAPER NUMBER
			2825	

DATE MAILED: 10/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/597,529

Applicant(s)

KERZMAN ET AL.

Examiner

Helen B Rossoshek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 15-17, 19, 20, 23-28, 33 and 34 is/are rejected.
- 7) ☒ Claim(s) 7-14, 18, 21, 22 and 29-32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 11 August 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:  |

### DETAILED ACTION

1. This office action is in response to the application 09/597,529 filed 06/20/2000 and amendment filed 08/11/2003.

2. Claims 1-34 remain pending in the application.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1, 23-25, 28, 33 and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Varadarajan et al. (US Patent 5,838,583).

As to claims 1, 23-25, 28, 33 and 34 Varadarajan et al. teaches selecting one of the nets via a user input device (col. 15, ll.26-27, 38-39; Fig. 2a); identifying selected leaf cells that are connected to the selected net (col. 26, ll.7) as shown on the Fig. 2a, wherein a circuit 201 is comprised of a plurality of instances (leaf cells) (205) and a

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plurality of nets (203), selected net (203) interconnects a number of instances (205); and selecting the identified leaf cells using standard cell placer (170) as shown on the Fig. 1; identifying an alignment axis; and aligning selected ones of the identified leaf cells in the direction of the alignment axis (vertical or horizontal) (col. 9, ll.39-40; col. 26, ll.3-5); the aligning step puts the selected identified leaf cells into a predetermined order along the alignment axis within specifying a serial position of the logic cell instance (leaf cell) (col. 26, ll.11-14).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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6. Claims 2-6, 15-17, 19, 20, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Varadarajan et al. as applied to claims 1, 23 and 33 above, in view of Aubel et al. (US Patent 5,696,693).

As noted above Varadarajan et al. teaches selecting the net and leaf cells that are connected to the selected net, but lacks the specifics regarding placing and aligning different type of leaf cells within a net. However with respect to claims 2-6, 15-17, 19, 20, 26 and 27 Aubel et al. teaches the identifying step include all of the leaf cells that are connected to the selected net (col. 2, ll.3-5); the identifying step include only the source leaf cell that is connected to the selected net (step 38 on the Fig. 4a) (col. 7, ll.20-22); the identifying step include only the destination leaf cells that are connected to the selected net by selecting a second set of nodes ("target" within step 40 on the Fig. 4a) (col. 7, ll.29-32); each of the leaf cells in the circuit design database is either placed or unplaced (col. 11, ll.9-12), the identifying step only identifying those leaf cells that are connected to the selected net and are placed (abstract); the identifying step only identifying those leaf cells that are connected to the selected net and are unplaced within steps 56 on the Fig. 4a; the aligning step further including the step of placing the identified leaf cells if not already placed by making a decision in the step 56 on the Fig. 4a; the unplaced identified leaf cells are first placed in a predetermined region before alignment within test steps 59 on the Fig. 4a. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used Aubel et al. to teach the specifics subject matter Varadarajan et al. does not teach, because it allows

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to reduce the time and expense associated with the design process of an application specific integrated circuit.

***Allowable Subject Matter***

7. Claims 7, 8-14, 18, 21, 22, 29, and 30-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record does not teach the step of setting a current context; the aligning step orders the selected identified leaf cells in accordance with the ordered bits of the vectored net or in reverse of the ordered bits and the identified leaf cells for each ordered bit has one source leaf cell and at least one destination leaf cell, the aligning step putting the at least one destination leaf cell adjacent the corresponding source leaf cell along an axis that is perpendicular to the alignment axis.

**Remarks**

8. As to claims 1, 23 and 33 Varadarajan et al. teaches selecting one of the nets via a user input device within representation of the schema of the circuit (in layout of database) as nets and instances (cells) (Fig. 2a; Fig. 2b) wherein the circuit designer (user) identifies the circuit and netlist (set of nets) by using I/O devices, shown on the Fig. 1, during the interactive floorplanning operations (col. 3, ll.25-28; col. 5, ll.58-61); identifying selected leaf cells that are connected to the selected net within the designer with ability to control each instance (cell) for further processing the alignment of cells (abstract; col. 9, ll.38-41); selecting the identified cells within defining the datapath regions including datapath functions (which include an arrangement of logic cells) by

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designer for providing this information to the placement system (col. 2, ll.31-36; col. 3, ll.25-28).

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### ***Conclusion***

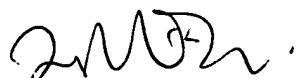
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen B Rossoshek whose telephone number is 703-305-3827. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S Smith can be reached on 703-308-1323. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

HR *HR*



LEIGH M. GARBOWSKI  
PRIMARY EXAMINER